



## Criminalistics Section – 2009

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### A3 Where is the Science?

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After attending this presentation, attendees will have discussed the balance between science and technology in criminalistics laboratories.

This presentation will impact the forensic community by stimulating discussion and drawing attention to the need for assuring that the work in criminalistics is science based.

This paper will pose several questions related to an apparent trend toward the replacement of science by technology and scientists by technicians in modern criminalistics laboratories.

As more advanced off-the-shelf technologies and more sophisticated automated analytical instrumentation become available in forensic science laboratories, questions to be answered will be: are criminalists doing less science? Is the use of standardized thresholds or cut-offs and uniform reporting criteria always better than interpretations that take case specifics into account? Does uniformity of reporting designed to minimize false inclusions run the risk of missing exclusions? Should there be symmetry with respect to the criteria for reporting of both inclusion and exclusion criteria? When proprietary off-the-shelf technology is employed in the form of pre-prepared kits, does/can the user understand the mechanism well enough to recognize and guard against unanticipated interferences and possible interpretation errors? When computer-controlled and highly sophisticated instrumentation is it being operated, is it employed in the manner of a "black box" device with a technician approach, or is the theory behind its operation understood so that it can be employed as a scientific tool in dealing with special problems? Is the instrumentation selected the best for the task at hand, or is it selected because it generates impressive data? Can anything but routine, predefined problems be addressed by what are primarily technological solutions? Is science available to address complex problems when they are encountered and recognized?

**Criminalistics, Science, Technology**